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ORIGINAL COMMUNICATIONS.

ARTICLE I. — *Report on the Changes in the Composition and Properties of the Milk of the Human Female, produced by Menstruation and Pregnancy; read before the American Medical Association, at its Annual Meeting in May*, 1856. By N. S. DAVIS, M.D. &c.

At the Annual Meeting of this Association in May, 1855, I had the pleasure of submitting a brief report on the best methods of preserving milk, in a state of freshness and purity, during long periods of time; and I now propose to occupy your attention with such facts and observations as I have been able to collect concerning the other important topics referred to your Committee for investigation.

The opinion has long been prevalent, both in and out of the profession, that the milk of mothers, who have become again pregnant during the period of lactation, is not capable of affording a sufficient amount of healthy nutritive matter for the proper nutrition and development of the nursing infant. The number of recorded observations calculated to form a basis for this opinion, is very small; and, so far as I have been able to learn, no attempts have been made, either by microscopic or chemical examinations, to ascertain the precise changes, if any, which take place in the milk in consequence of the superven-

tion of pregnancy or menstruation. In Hassell's work on *Microscopic Anatomy*, we find only the following paragraph:— "The milk of women, in whom the natural periods have returned during the course of lactation, has likewise been carefully examined. Except in a single instance, however, it has not been found to present anything remarkable in its characters. In the case referred to, it had degenerated to the condition of colostrum, and contained the granular colostrum corpuscles."

Lehmann, in his work on *Chemical Physiology*, just issued from the press in this country, says, in speaking of the morbid changes in milk, that "Epithelial cells, mucous corpuscles, fibrinous clots, blood corpuscles, infusoria (vibrio bacillus,) and byssus (blue milk) are rare admixtures, purely accidental, or caused by pathological affections of the mammary glands."

Dr. Carpenter, and other writers, allude to the subject in the same general terms.

Being unable to find already on record any number of analyses of milk secreted during either menstruation or pregnancy, I have embraced every opportunity afforded me during the past year for making analyses, both chemically and with the microscope.

Analyses of healthy human milk have been made by Simon, L'Heretier, Chevallier and Henri, Vernois, and several others; and the results obtained by them clearly establish the fact, that the relative proportion of the constituents of healthy milk varies much in different individuals, and even in the same individual at different times and under the influence of variations in diet, exercise, &c.

To obviate, as far as possible, any erroneous inferences from the occurrence of these normal variations, I have, in this report, placed in comparison only the milk of the same female, taken at different periods of time, but under circumstances in regard to diet, exercise, &c. as nearly uniform as possible. To determine the effects of pregnancy on the composition and properties of milk, I obtained from Mrs. G. an intelligent American lady, aged about twenty-seven years, when in the eighth month of lactation she was again found to be nearly three months

advanced in pregnancy, an ample supply of milk for examination. At the same time, a careful record was made concerning her health and that of her nursing child. She passed through the full period of pregnancy, underwent a safe delivery; and, when in the third month of lactation, free both from menstruation and pregnancy, she again supplied me with a sufficient quantity of milk for a full examination.

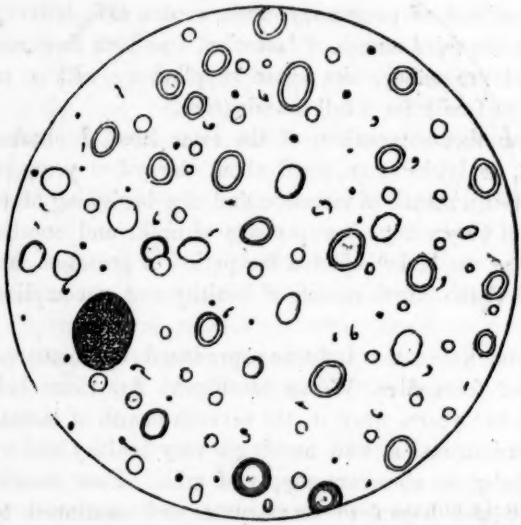
For another comparison of the same kind, I obtained from Mrs. B. an Irishwoman, aged about thirty-five years, when in the eleventh month of lactation and the beginning of the sixth month of pregnancy, one specimen of milk, and another specimen after she had completed her period of gestation, and again arrived at the fourth month of healthy and uncomplicated lactation.

To determine the influence produced by menstruation, I obtained from Mrs. W. an intelligent American lady, aged twenty-five years, when in the seventh month of lactation, free from menstruation, and nursing a very healthy and well-nourished baby, an abundant supply of milk. Four months subsequently she began to menstruate and continued to do so regularly, and, at the same time, nurse her infant until the fourteenth month of lactation. During the period intervening between the second and third menstrual discharges, she furnished four more samples of milk for examination and analysis.

All the specimens of milk examined were subjected to the same processes, and with a view of determining in each:—*first*, the microscopic appearances; *second*, the relative proportion of cream which would separate by standing; *third*, the relative proportion of water and solid matter; and, *fourth*, the relative proportion of each of the following ingredients, viz.:—water, butter (or oil soluble in ether,) casein, sugar and extractive matter, and salts. To accomplish the first object, each specimen of milk, soon after its removal from the breast, was subjected to a careful examination under a good achromatic lens, magnifying one thousand diameters. The two first specimens, which were obtained from females in the state of pregnancy, presented appearances strikingly similar. A carefully-executed sketch of the field, as it appeared under the micros-

cope, while examining the milk of Mrs. G. is herewith shown in

FIG. I.

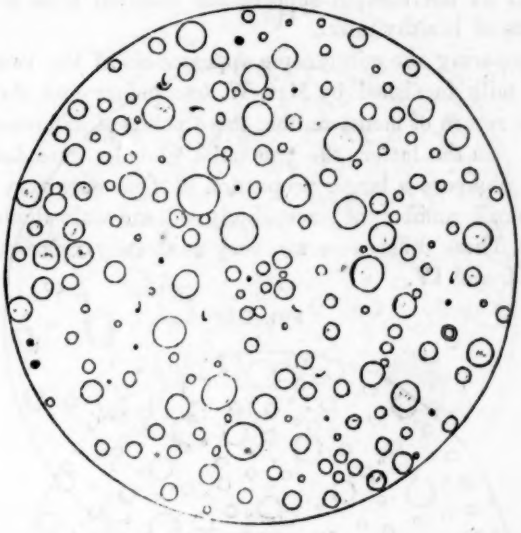


To facilitate the comparison, I have represented (Fig. II.) the appearances of another specimen of milk, obtained from Mrs. G. after she had nursed her second child three months, and was free from the influence of either pregnancy or menstruation.

Several microscopic peculiarities were easily recognized in the specimen first examined. The globules or milk corpuscles were comparatively very few in number, and their size either very large or very small; the medium-sized corpuscles being the most deficient. Of the larger-sized corpuscles some were distinctly oval, and most of them appeared to possess double-cell walls, one within the other, precisely as described by Turpin.* A few true colostrum corpuscles were also found in both the specimens of milk from the pregnant females. Only one of them was present in the field represented on Fig. I. There was also observed, in these specimens of milk, a greater number of

* Annales des Sciences Naturelles.

FIG. II.



exceedingly minute globules of low refracting power, which are supposed to be composed of casein by M. M. Quevenne and Donne. In the plates they are mostly represented as small black spots.

Another highly-interesting peculiarity, noticed in the milk of Mrs. G. while in a state of pregnancy, was the presence of a considerable number of exceedingly small anamalculæ. Some of them appeared to be perfectly linear, like vibrios; while others were evidently enlarged at one end, somewhat resembling the human spermatozœ, though much smaller and the tail less filiform. They were all capable of an independent, though vibratile or wriggling motion, by which they were sometimes seen to move from one-fourth to one-half of the distance across the field. After repeated and careful observations, I am satisfied that the motions here described were wholly independent of any accidental motion in the fluid under examination. These apparent animalculæ are very correctly represented in Fig. I. They were also visible, though fewer in number and smaller, in the milk of the same woman when not pregnant, as represented

in Fig. II. Aside from this, the milk represented in Fig. II. presented no microscopic appearances different from ordinary specimens of healthy milk.

In comparing the microscopic appearances of the two specimens of milk furnished by Mrs. W. one before and the other after the return of menstruation, three points of difference were noticed. In the latter, the true milk globules were decidedly fewer in number; a larger proportion of them were very small; and a small number of exceedingly minute animalculæ were visible. These differences are very accurately represented in Figs. III. and IV.

FIG. III.

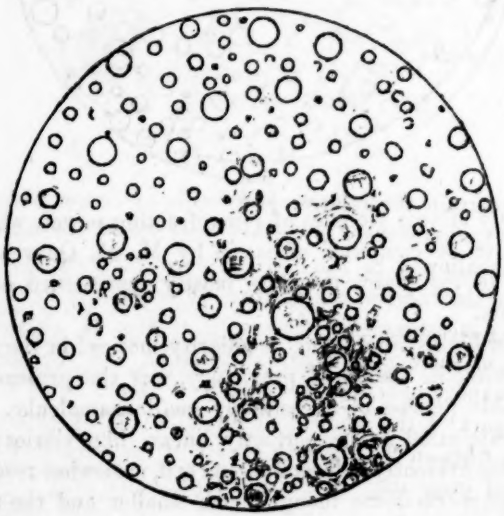
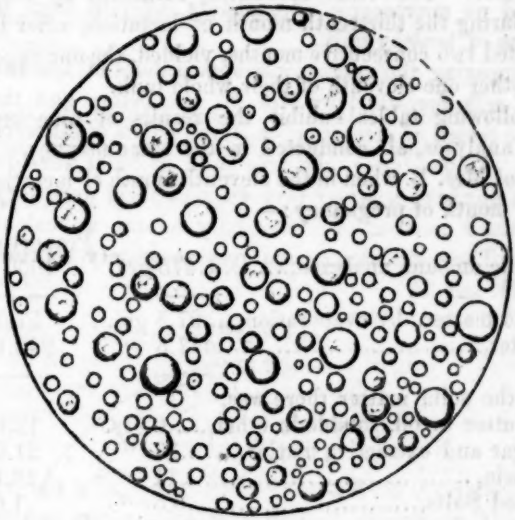


FIG. IV.



To ascertain the relative proportion of cream which would separate spontaneously, a certain quantity of each specimen of milk was allowed to stand in an open tube thirty-six hours, when the thickness of the stratum of cream was readily determined by measurement. The milk of Mrs. G. obtained when she was in the eighth month of lactation and the third month of pregnancy, exhibited a quantity of cream equal to one-sixteenth part of the whole bulk of milk. That obtained from Mrs. B. when in the eleventh month of lactation and the sixth month of pregnancy, exhibited cream equal only to one-twentieth of the whole quantity of milk. The milk received from Mrs. G. during the third month of the second lactation, yielded a proportionate bulk of cream fully equal to one-eighth; and that obtained from Mrs. B. during the fourth month of the second lactation, gave one-twelfth.

These are striking differences, and well worth careful consideration.

The milk furnished by Mrs. W. when in the seventh month of healthy and uncomplicated lactation, the same as represented

in Fig. IV. also yielded an amount of cream equal to one-eighth of the whole. Two other specimens, furnished by the same woman, during the thirteenth month of lactation, after having menstruated two consecutive months, yielded, the one one-tenth, and the other one-eleventh of their whole bulk.

The following tables exhibit the results of nine separate chemical analyses, all conducted in the same manner. *First*, the milk of Mrs. B. when in the eleventh month of lactation and the sixth month of pregnancy:—

		Proportion in 1000 parts.
Whole amount analyzed,.....	475 grs.	
Solid matter, by evaporation,.....	27.5 grs.	57.90
Water,.....	447.5 "	942.10
Of the solid matter there was,		
butter or oil, soluble in ether,.....	6 grs.	12.63
Sugar and extractive matter,.....	10 "	21.05
Casein,.....	11 "	23.16
Fixed Salts,.....	0.5 "	1.06

Second, the milk of Mrs. B. when in the fourth month of her second lactation, uncomplicated by pregnancy:—

		Proportion in 1000 parts.
Whole amount analyzed,.....	829 grs.	
Solid matter, by evaporation,.....	94 grs.	113.39
Water,.....	735 "	886.61
Of the solid matter there was,		
butter or oil, soluble in ether,.....	19 grs.	22.92
Sugar and extractive,.....	24 "	28.50
Casein,.....	48 "	57.90
Salts,.....	3 "	4.07

Third, the milk of Mrs. G. in the eighth month of lactation, and the third of pregnancy:—

		Proportion in 1000 parts.
Whole amount analyzed,.....	475 grs.	
Solid matter, by evaporation,.....	32 grs.	67.36
Water,.....	443 "	932.64

Of the solid matter there was,		
butter or oil, soluble in ether,.....	8 grs.	16.84
Sugar and extractive matter,.....	11 "	22.10
Casein, ...	12 "	25.26
Salts,.....	1 "	2.10

Fourth, the milk of Mrs. G. in the third month of the second lactation, without pregnancy or menstruation:—

		Proportion in 1000 parts.
Whole amount analyzed,.....	205 grs.	
Solid matter, by evaporation,.....	24 grs.	117.07
Water,.....	181 "	882.93
Of the solid matter there was,		
butter or oil, soluble in ether,.....	8 grs.	39.02
Sugar and extractive,.....	6.5 "	31.70
Casein,.....	8.5 "	41.46
Salts,.....	1 "	4.87

Fifth, the milk of Mrs. W. at the end of the seventh month of lactation, without menstruation or pregnancy, the nursing child being very robust and healthy:—

		Proportion in 1000 parts.
Whole amount analyzed,.....	1500 grs.	
Solid matter by evaporation,.....	203 grs.	135.34
Water,.....	1297 "	864.66
Of the solid matter there was,		
butter or oil, soluble in ether,....	67 grs.	44.67
Sugar and extractive,.....	55 "	36.66
Casein,.....	75 "	50.00
Salts, ...	6 "	4.00

Sixth, the milk of Mrs. W. in the thirteenth month of lactation and the third month of menstruation. The table presents the average results of four separate analyses:—

		Proportion in 1000 parts.
Whole amount analyzed,.....	1467 grs.	
Solid matter, by evaporation,.....	137 grs.	93.38
Water,.....	1330 "	906.62

Of the solid matter there was,		
butter or oil, soluble in ether,...	44 grs.	29.99
Sugar and extractive, ...	41 "	27.94
Casein, ...	48 "	32.71
Salts, ...	4 "	2.72

If we may deduce conclusions from the limited number of observations and analyses here detailed, we may find a very definite answer to the question under consideration, so far as it relates to the changes in the *composition* of the milk.

First—The occurrence of pregnancy during lactation, produces a very marked diminution of all the solid or nutritive constituents of the milk; such diminution continuing to increase as the pregnancy advances.

Second—In examining the separate proximate constituents, it will be observed that a much greater relative diminution takes place in the casein, the butter or oil, and the salts, than in the sugar and extractive matter.

Third—There appears to be added to the milk secreted during the progress of utero-gestation, some of the *granular* bodies or colostrum corpuscles, and numerous minute infusoria or animalcular germs, which have been very rarely found in healthy milk.

Fourth—Changes, the same in kind, take place in the milk secreted after the establishment of regular menstruation, but much less in degree; and the relative diminution of the several constituents is more uniform.

CHANGES IN THE QUALITIES OF THE MILK.

These may be inferred, partly, from the previously ascertained changes in its composition, and partly from a direct observation of its effects on the nursing child.

From the comparatively small quantity of solid or nutritive matter in the milk secreted after the commencement of pregnancy, it is evident that it is much less capable of furnishing to the nursing child a sufficient quantity of nutritive material for the healthy development of all its tissues; while the presence of granular or colostrum corpuscles, with or without infusoria, would greatly tend to establish irritation in the mucous

membranes, manifested by frequent attacks of diarrhœa, more or less emaciation, and almost constant peevishness. These inferences, drawn from a knowledge of the changed composition of the milk, are, to a certain extent at least, confirmed by direct clinical observations. Thus, the child of Mrs. G. which was only about four months old when the mother again became pregnant, was perfectly healthy and well nourished up to that time. Soon after, it began to be peevish and restless, with flatulency, and occasionally green discharges from the bowels. These changes were at first slight, but they gradually increased, and at the end of six weeks it was evident that the child had ceased to be well nourished. Its tissues had become soft and flabby, and the mucous surfaces irritable, as manifested by occasional vomiting and more frequent intestinal discharges of a green color and sometimes mixed with mucous. During the succeeding two months, the child was subjected to several attacks of severe watery diarrhœa, accompanied by so much emaciation that the parents took it from the city into the country, with the hope that a change of air would restore it. While absent, however, it was attacked with cholera morbus, and died in two or three days. To enable the reader to judge how far the period of primary dentition and the season of the year influenced the child, it is proper to state, that at no time could I discover any evidence that the advancing teeth produced irritation, either local or general. The mother became pregnant the last week in April; and the nutrition and general health of the nursing child became decidedly impaired before the end of the June following. This was too early for the influence of the season to be felt unfavorably; although the two following months (July and August) undoubtedly increased the tendency to intestinal irritation, and probably hastened the fatal termination.

The child of Mrs. B. was also healthy and well nourished until it was five months old, when the mother again became pregnant, which was in the month of March, 1855. During the month of May, the mother applied to me for advice, saying, that, for three or four weeks, her child had been unusually fretful and restless; that it was troubled with flatulency; often

rejected its milk by vomiting, and was "getting poor." I examined the child's mouth, but found no swelling of the gums or other indications of irritation from teething. Although temporarily relieved by medicine from time to time, the child continued to fail in its nutrition and to become more and more subject to diarrhœa and vomiting, until during the latter part of summer it presented the appearance of extreme emaciation and anœmia. The mother persisted in nursing it until the middle of September. Soon after it was taken from the breast, it began to gain in flesh and strength, and continued to do so for two months. At the end of this time it was attacked with symptoms of sub-acute meningial inflammation, and died in about six days with evident effusion of serum on the brain.

I have been thus particular in stating the health of the children, as well as the season of the year when the mothers became pregnant, in connection with the results of the analyses and microscopic examinations of the milk, that we might have all the circumstances which could be supposed to exert an influence on the results. Since their second confinement, both mothers have enjoyed good health; and at the time they furnished the last specimens of milk for examination, the one in the third, (see Fig. 2) the other in the fourth month of lactation, their nursing children were perfectly healthy and well nourished. Since this subject has been under investigation, I have met with four other females who had become pregnant while nursing. In all but one the children began to exhibit symptoms of imperfect digestion and nutrition within two months from the time the mothers became pregnant, and continued to do so until they were removed from the breast. One of these mothers came to me for advice about the propriety of *weaning* her child in November last. She said the child had not "*grown well* for several months;" that it was exceedingly fretful and restless, with frequent disorder of the bowels. I learned that she was then in the sixth month of pregnancy, and the secretion of milk in her breasts had been insufficient for the child without the daily use of other milk. She agreed to procure for me a vial of milk from her breasts the next day, and then immediately wean the child. To her surprise, however, she found on

making the trial next day that she had no milk in her breasts, being able to procure the discharge of only a very few drops of a watery fluid. The child was not put again to the breasts, and no more milk was secreted until after her subsequent confinement. Here was a case in which the progress of utero-gestation seemed to cause the entire cessation of the secretion of the mammary glands; the woman being in the mean time in robust health. The child subsequently became healthy, and remains so at the present time. On the other hand, one of the four mothers, to whom I have just alluded, became pregnant about the sixth month of lactation. The nursing child continued to enjoy good health, and its nutrition to remain nearly as perfect as before. The mother herself, however, soon began to show signs of anœmia, which increased so rapidly, coupled with much nervous irritability and tenderness of the mucous lining of the mouth, that she was compelled to wean her child at the end of the fifth month after the commencement of pregnancy. So far as I have been able to observe, the effects of menstruation, both on the quality of the milk and the health of the nursing child, are much less marked than than those of pregnancy. The child of Mrs. W. maintained good health and was well nourished throughout the whole period of nursing. During the last two months, however, after the menses had returned, it became habitually more irritable, and seemed to require additional nourishment.

Investigations, such as I have entered upon, for elucidating the questions propounded to me by the Association, require much time and labor, though the results may be stated in a few words or figures. The important practical bearing of the results obtained thus far, will be obvious to every intelligent physician. But the examinations and analyses, microscopic and chemical, should be multiplied until they are sufficient to render all conclusions, drawn from them, demonstrated truths.

ARTICLE II.—*Case of Compound Fracture of the Skull, with Symptoms of Compression—Operation.* By Wm. Manson, M.D. and John T. Richardson, M.D.

On the 10th of August, at 7 o'clock, A.M. we were called to

Michael Welsh, who the messenger said had been struck on the head with the pole of a hatchet. We arrived at the place in twenty-five minutes after the accident. Found the patient, (a native of Ireland, aged thirty-eight years, had enjoyed good health, but constitution somewhat impaired by intemperance,) with a bloody tumor of the scalp, over the anterior superior angle of the parietal bone of the left side. At the lower part of the tumor there was a wound, through which we could introduce the index-finger, and distinctly feel the sharp edge of the fractured bone.

There being all the symptoms of compression, we resolved to operate as soon as we could procure a trephining case, for which we were obliged to send twelve miles; and at 11½ o'clock A.M. we commenced the operation by making T incision, which, owing to the extent of the fracture, we had to make into a crucial. After dissecting up the scalp, examining the extent of the fracture—which proved to be two inches and three-fourths in length, and one inch and three fourths in breadth, extending across the sagital suture and involving some of the opposite parietal bone, very irregular—we removed about half a dozen small pieces of comminuted bone, with a pair of dressing forceps, and there remained two large pieces. By sawing off a corner of solid bone, about three quarters of an inch, we took out one of the pieces, and then removing about an inch were enabled to take all out. But the internal table, extending in some places as much as half an inch farther than the external, we were obliged to saw around almost the entire fracture; Heys saw being the one used. The dura mater was ruptured in one place to the extent of half an inch. There was alarming hemorrhage from the rupture of a small artery, which was out of sight, but was controlled by sponges dipped in ice-water and applied to the wound.

The spiculæ of bone being removed by bone forceps, and the hemorrhage ceasing in about two hours from the commencement of the operation, we dressed the wound by placing back the flaps, using two or three sutures—keeping the edges of the flaps together mainly by adhesive straps.

The patient became rational during the operation, and it was

with some difficulty that three men could keep him quiet. The skin had by this time began to grow warm; the breathing, from being stertorious, now became natural.

Left him in care of two trusty men; ordered him to be kept quiet, and applied cold water to his head. Gave two drops of croton oil, with orders to repeat it in half an hour, if it did not operate.

We visited the patient again at 6 P.M. Flighty at times; recognizes all who call in; feels no pain; pulse eighty-six, soft and regular; skin warm and a little moist; bowels not moved.

Ordered, hydrarg. S.M. gr.xxv. to be taken at 9 o'clock.

Aug. 11, 6 *P.M.*—Slept the most part of the night; bowels moved three times copiously during the night; pulse ninety, full and with considerable force; drank a little tea.

Ordered, potassæ antimonis tartras, in nauseating doses through the day.

Has fever; pulse 100, wiry; drinks copious draughts of water. Dressed the wound—healing by the first intention. The patient was raised to the sitting posture, and bled from the arm to approaching syncope, losing about twelve ounces of blood, which relieved the pain in the head. Was ordered to take the following:—

℞—Hydrarg. S.M. . . . gr.xij.
Pulv. Ipecac. . . . . gr.ij.
M. Divide into 6 powders;
One to be taken every four hours.

12*th*, *A.M.*—Passed a comfortable night; fever abated; bowels moved twice through the night; wound seems to be doing well.

6 *P.M.*—Much the same as in the morning. Entirely rational, but cannot command words to convey us ideas.

13*th*, 6 *A.M.*—Complains of pain about the wound; increased when he moved. Forgets sometimes what he is talking about. Pulse eighty, feeble. Gave chicken tea, brandy, and quinine.

14*th*, 6 *A.M.*—The wound has the appearance of sloughing where it was bruised with the hatchet. The sutures were all removed. There was considerable discharge from the wound of bloody matter.

6 *P.M.*—Has been restless through the day; pulse seventy-six, feeble. Removed a large portion of the flaps, with the forceps, that had sloughed. The incisions are again opening; applied argenti. nitras, ʒss. to the ℥j. of water. Continued the brandy and quinine.

15*th*, 7 *A.M.*—Rested well through the night; feels weak; pulse sixty-six, regular; seems to be acquiring some force; vomits after eating and drinking; wound indolent, and not healing.

Directed, brandy, ʒss. and gr.ij. of quinine, four times in the day.

16*th*.—Much the same as yesterday; wound shows no inclination to heal. When the dressing was removed, some arterial blood escaped from under the skull. Applied the solution of nitrate of silver. Bowels being costive, was ordered a laxative. Continued the brandy and quinine.

17*th*.—The patient passed the night rather comfortable; pulse sixty-six; tongue furred; bowels moved; complains of some pain in the wound—not healing. Removed everything that would have any tendency to produce irritation.

Treatment: continued the tonics, with an anodyne at night.

18*th*.—Feels better than he has since he has been hurt; pulse seventy-two and regular; can sit up some; wound not sloughing any, begins to look healthy.

Treatment the same as yesterday.

19*th*.—Patient convalescing; appetite better; wound granulating, but the granulations are weak. Used stimulating dressing.

The patient continued to do well for about ten days, gradually gaining his strength, at which time he was attacked with inflammatory rheumatism in one knee, which was treated in the regular way—proving rather obstinate, greatly retarded the healing of the wound in the head.

His diet was farinaceous during the first weeks of his convalescence; but was subsequently left to his own taste.

He is now, at time of writing (Oct. 1,) entirely well, but has not yet resumed his occupation owing to weakness.

SELECTIONS.

A Case of Obstinate Regurgitation of the Contents of the Stomach, Treated by the Inhalation of Chloroform; with Remarks on Regurgitation. By ISAAC E. TAYLOR, M.D. Physician to Bellevue Hospital, New York. Read before the New York Medical Association, and published by request.

September 1, 1855, I was requested to visit a married lady, æt. twenty-seven years, who had suffered from chronic vomiting for several weeks.

She had just returned from Newport, R.I. where she had gone to enjoy the benefit of sea-bathing for the more complete restoration of her health, which had been delicate for the last few years, but had somewhat improved the few months previous to her going to Newport. Whilst she was at Newport, the affection of the stomach commenced. In the early part of August (I think the 6th) she had been bathing, and walked from the beach to her residence, a distance of one mile, which fatigued her very much. This, with the unpleasant information she had received by letter after her return, from a near relative, and producing some excitement of mind, was believed to be the exciting cause of the malady.

When I visited her, I found her looking cheerful, and her mental energies lively as usual. No depression of spirits; there was not much, if any, emaciation since I last saw her (July 19;) there was more feebleness; pulse natural; skin the same in feel and function; tongue clean and looked natural. The countenance did not present the appearance of any serious disease of the stomach or of the abdominal organs. Appetite was good, and she enjoyed her food with some relish. The bowels were not regular, nor had they been for some time, which was the reverse of what formerly had been the case, having been subjected to a form of chronic diarrhœa for the last two or three years, at intervals. She had been married for several years; was of a leuco-phlegmatic temperament, and had had five or six miscarriages. A sub-acute ovaritis had existed, and which, under treatment, yielded during the spring. The diarrhœa also ceased previous to her leaving for Newport. She vomited, or rather regurgitated her food after every meal, and whenever any fluid of the smallest quantity was taken, and seldom without something was swallowed. There was a slight burning sensation in the region of the cardiac extremity of the stomach, under the scrobiculis cordis, after she had rejected

what she had taken. There was no pain on pressure over the region of the stomach; no tenderness; no enlargement was perceptible over the abdomen. No tenderness of the spine; but tenderness, the size of a quarter of a dollar, in the right iliac region, corresponding to the lumbo-abdominal nerves in this section of the abdomen. Urine natural, and no albumen. The menstrual function was normal; there was no disease of the uterus. This organ was normal in size, position, and appearance. The ovaries also the same. The food or drink was returned, with very little change, as soon as swallowed, without nausea, and without convulsive effort or change of countenance. She had not thrown off any blood. Acidity sometimes was present, and more so during the first week than ever afterwards during the time I was in attendance. The contents of the stomach, provided the patient had eaten or drank a larger quantity than usual, would be regurgitated, as a general rule, mouthful by mouthful, till the whole was eliminated. Sometimes, however, it would be rejected in larger quantities at a time. It usually occupied her from a half hour to one hour and a half to reject her food and drink. Solid food was partly digested, and other times not. She had been treated Homœopathically while at Newport, and also by the regular method of treatment.

From the appearance of the patient, and the manner in which the contents of the stomach were rejected, I considered it a case of regurgitation, and not vomiting, and that the malady appeared to be seated in the eighth pair of nerves, and the solar or semi-lunar plexus of nerves of the stomach was incidentally involved; that the stomach was not diseased in any of its tissues at the time. I did not consider it, therefore, as merely hysterical or as sympathetic of any uterine trouble, or of any internal organ. This opinion was expressed to the family the day following. The treatment, with this view of the case, was principally by those remedies that would have an influence over that portion of the nervous system. The alkaloids were first resorted to, and then the various sedative preparations. Cannabis indica, in the one-sixth of a grain, was of some service. McMunn's elixir of opii, in five-drop doses, with five drops of vinegar, repeated every few hours, after meals and during the time of meals. The various mild ferruginous preparations were tried; chloroform internally and with camphor; nitric acid upon the stomach; blisters alone and dressed with the alkaloids; epispastic, not only to the stomach, but to the spine; also dry cupping to the spine along the greater part of its tract; stimulating liniments of chloroform, with aconite,

etc. were used. Nutritious enemas were also resorted to. In truth everything that could be suggested, and that was deemed advisable, was made trial of. Her diet was restricted, and cream and milk, in tea-spoonful proportions, were administered every half hour. This treatment seemed to prostrate her so much that she was permitted to eat whatever she pleased, and in this manner, although the food was regurgitated, she was sustained better, and, as I believe, only in this way. Out-door exercise was resorted to as much and as often as her strength would admit of.

As nothing I had suggested, in the treatment of the case, appeared to afford any benefit, Prof. Joseph M. Smith was invited by me to visit her, six weeks after I first saw her; and two or three weeks after this visit of Prof. Smith, Dr. C. D. Smith was invited to join Prof. Smith and myself. Under the treatment then advised, the malady still continued without any change for the better.

As no favorable result had ensued by March, she was advised to make trial of a sea voyage. She bore the sailing remarkably well, so much so as to merit the appellation of being "the best sailor aboard of the ship," and improved as respects her general strength; but she was not benefited in the least, while at sea, respecting the regurgitation, nor when she arrived at Paris. She there came under the supervision of Sir Joseph F. Olliffe, who had associated with him Professor Trousseau, during the whole of the time she resided there, which was three months. She was also visited by Prof. Rayer. The opinion of Prof. Rayer was, that it was a severe case of gastralgia. The views entertained by Sir Joseph and Prof. Trousseau were —I quote from Sir Joseph's letter to me, June 18, 1856:—"It is a case of obstinate regurgitation, unaccompanied with organic lesion; but, from its antecedents—the anterior uterine affection, the frequent miscarriages, and the manner of invasion of the malady—we both were impressed with the idea that the uterus was the *point de depart* of all the mischief. We determined, accordingly, to establish a point of irritation on that organ, by applying the actual cautery, and selected the anterior labium of the cervix, on which there existed a small ulceration." The treatment of these gentlemen proved of no avail, and the usual internal methods of treatment for affections of the stomach were also instituted with the like result. Hydropathy was tried, as well as electro-magnetism.

On the 8th July, the patient once more presented herself to my notice, without any change for the better. She was more emaciated and weighed about eighty-three pounds, as was after-

wards ascertained. For several days after she returned, nothing was suggested till she had recruited from the effects of her sea voyage; and, on the 17th July, after a slight breakfast consisting of toast and tea, and as soon as she had swallowed it, and before it was regurgitated, she was brought under the partial influence of chloroform; and, as she did not reject her food after fifteen minutes, the inhalation was continued for one and a quarter hours, and during that time no regurgitation occurred. There was, while under the effects of the chloroform, considerable uneasiness and distress in the stomach, which was perceptible from the moaning of the patient and the vermicular motions of the stomach, while the food was undergoing the process of digestion. Fifteen to twenty minutes after the chloroform had been given, she regurgitated part of her food, and continued to do so from three quarters to one hour, but not to the same extent as previously. After the trial of chloroform that day, she did not appear much feebler than before it was taken. Her food, July 17, was of a light nature and smaller in quantity than she had usually partaken of: it was rejected, but not as soon or as much. The following day, July 18, she was allowed to remain quiet with the same light nourishment as the day before. On Saturday, July 19, at 2½ P.M. directly after she had eaten her dinner of beefsteak, tomatoes, potatoes, bread, and some brandy and water, the chloroform was administered, and continued till 4 P.M. one hour and a half, and to the same extent of partial anæsthesia as before. No regurgitation occurred till 4½ P.M. and then it was at long intervals and in mouthfuls, and nothing like the quantity she had eaten. The distress, judging from the moaning of the patient, and the writhing motions of the body, was more severe, and the attempt to regurgitate more evident. This, I presume, was owing to the larger quantity of food she had eaten, and of a more solid nature than before. In the disgorging of the food there was some acidity. No food that evening was allowed till next morning, July 20, when the light food she had taken for her breakfast was not cast off as soon or as much; and, during the afternoon, after another light meal for dinner, the same thing recurred but too a partial extent. At 8 P.M. she was much enfeebled, but this was attributed to her not having partaken of the usual quantity of food she had been accustomed to, and some brandy and water was advised in small doses. At 10 P.M. there was a little regurgitation, with some acidity. Ord. mixture composed of spts. ammonia comp., bi-carb. potass., nit. potass., and hydrocyanic acid in solution, and three table-spoonfuls of this mixture were given. The medicine in this quantity

was retained. In one hour afterwards, as there was some nausea, it was given again and retained—a symptom in the treatment of the case which was very gratifying to perceive, for so large a quantity had not been retained as long before since she was taken sick; and although I had, during the evening, my suspicions awakened to the possibility of her improvement, I felt at this time stronger encouragement to believe my patient was in a fair way of recovery. One hour after the last dose, as my patient had not slept during the day, and but little the evening previous, I gave her a pill composed of Indian hemp ¼gr. and watery ext. of opium one gr. and one hour after this a second. After a short interval of time, as she appeared inclined to sleep, I left her till 7½ A.M. directing that some chicken-iced-jelly should be carefully and nicely prepared, which was given in tea-spoonful quantities every half hour for three hours, to be again resumed in three hours; this quantity in such a given time was continued till the next day, and then it was given in dessert-spoonful quantities with tea-spoonful doses of brandy and water. The third day, July 23, the nourishment was increased to table-spoonful proportions, every ten or fifteen minutes, till a sufficient quantity of food was taken, and with a gradual increase of other kinds of food; and under the general advice and directions given, she improved so much as to be able to leave for Lebanon Springs, August 6, and continued to improve during a sojourn of four weeks in the mountain region, so as to gain fifteen pounds during that time; and she is at this time enjoying as good health as previously; nor has any further evidence of the malady manifested itself from the time it ceased, July 20, to the present moment.

REMARKS.

The case of regurgitation of the contents of the stomach, as related, and which is considered as a peculiar morbid affection of that viscus, suggests a few remarks on the subject of regurgitation. In the various treatises on the practice of medicine, this form of affection of the stomach is not alluded to. Affections of this nature are usually embraced and considered as cases of vomiting, the stomach having the appearance of, and therefore believed to be, the principal seat of the disease. I think, however, it will be ascertained, on more mature reflection, and the investigation of cases of this character, that the disease is differently located. It is a conceded point, that there may be different antiperistaltic actions to which the alimentary canal, from the pharynx to the small intestines, is subjected. Rumination claims the first notice. Regurgitation is next pre-

sented to our observation, then vomiting, and, if carried further down the intestinal tract, ileus. The first two will more especially invite our attention.

Rumination, we are aware, is generally allied to the animal kingdom as well as regurgitation, and it might seem singular that the natural process of some of the animal creation might or could occur in the human species, and be recognized as one of disease. Nevertheless, such appears to be the fact, as instances of this nature do occasionally present themselves to the experience of professional men, not only in affections of the stomach, but in other parts of the human organization—the nervous system especially. By rumination, we understand the act or process by which a part of the food, after it is taken, rises into the pharynx, after a longer or shorter interval of time, varying from a few minutes to several hours.

Fluids are more easily thrown up than solids, and vegetable than animal matter. There is no nausea nor offensive taste perceptible, and after the substances have been retained for a time in the mouth, they are again swallowed, when another portion rises; and this is repeated more or less frequently in a period of time varying from a few minutes to one or two hours. The act, however, is not generally the actual rumination of the cloven-footed animals.

In the instance of a young gentleman, who has lately presented himself to my observation, this function has existed for nearly a year, but it is only in the morning after breakfast, and not during any other meal. Portions of the food he has partaken of will be returned to the mouth and then swallowed. It is sometimes thrown off or rather regurgitated. His health, in other respects, appears to be generally good. He is engaged as a clerk in business, and frequently, through the hurry or press of business, eats with rapidity, or, in other words, bolts his food.

Sir Henry Marsh, in an article on regurgitation, in the *Dublin Quarterly Journal of Medical Science*, Vol. XXIII. refers to the case of a young gentleman which bears pointedly on this affection. The young gentleman was a clerk in a bank, enjoyed good health, lived at his desk, took but little exercise, and dined hurriedly, scarcely allowing himself time to masticate his food. Soon after dinner, portions of food, with little or no effort on his part, ascended into his mouth, were re-masticated and again swallowed. In this manner, according to his own account, the whole food underwent the secondary process. It was a source of much enjoyment to him, and he prided himself upon the possession of this novel capability. Romberg, however, says he

has not found the rumination in man to be actually the same as in animals, and that the morsel thrown up is not subjected again to trituration. This corresponds with my own experience. The case of Sir Henry is, nevertheless, very clear and decided in this respect, showing that the normal act of the animal kingdom may, through disease in the human species, assume the same features. In man, the act of rumination is generally an involuntary one. In a case, mentioned by Blumenback, and one also by Peter Frank, it was considered as dependent on the will. It is related by Dr. Heiling, that Professor Westendorf, of Gustrow, was able to ruminate whenever he wished, but that if he took any active exercise after meals, it would certainly occur. It may also be remarked, that if another disease should supervene, such for instance as gout or rheumatism, the affection might cease. Pressure with both hands on the stomach, we know, if freely made after a meal, will produce the same effect.

Peter Frank was of the opinion, that in persons who suffer from eructations, and are voracious, rumination is induced by a bad habit, the ruminating matter offering an encouragement to the repetition of the experiment. By regurgitation is meant that act or process by which the contents of the stomach are eliminated, whether of the fluid, gaseous, or solid nature, without much or any nausea, without any or very little convulsive effort, without sickness, or any change of color or tinge appearing in the face during the act; in truth, having the appearance as though the fluid or solid contents of the stomach issued from the stomach without any difficulty or exertion. In the same individual, the food may be sometimes vomited and sometimes regurgitated; and it may be cast off entirely, and sometimes discharged, as in the case of our patient, mouthful by mouthful till the whole is rejected, occupying from half an hour to one and a half or two hours. The food is therefore in some instances partly digested from the length of time it is being regurgitated; and will sometimes not be digested, and the act of regurgitation may then be difficult to recognize from vomiting.

Regurgitation, as well as rumination, are normal and natural functions of various forms of the animal creation. In many of the lower order of the polypi, the entire order of the entozoa, the sterelmintha of Rudolphi, the superfluous part of the food is regurgitated after the nutritious portion is abstracted by digestion. In fishes, the same is likewise noticed. In birds it is also recognized, such, for instance, as the vulture, eagle, the pheasant, parrot, and the pigeon, and it is strikingly manifest,

as we have all seen, in the ruminating class, as the ox, cow, sheep, etc. The act of regurgitation differs in different animals, and which is owing to the physical structure of the muscular fibres of the œsophagus, whether they are of the striated or non-striated form. In the rodentia, according to Edward Weber, he has invariably found the muscular fibres of organic life which present both longitudinal and transverse stria, while in birds the muscular fibres are non-striated and organic: in the former, the movement is entirely that of animal muscles; in the latter, of organic muscles. In cats and dogs they are of a mixed character, the movements accordingly correspond with the double type. Judging from these investigations, it resolves itself into the proposition, that those muscles that contract and relax are of the striated form, and those that contract slowly and in a vermicular manner present the non-striated form. It is but lately we have learnt the movements of the œsophagus in health in man, and the important part it plays in vomiting or disease of the stomach.

According to the observations of Muller, and Majendie, and Budge, rhythmical contractions of the lower portions of the œsophagus take place independent of the act of swallowing, lasting about thirty seconds, and continuing longer the fuller the stomach may be. The contraction passes gradually into relaxation, which is again followed by contraction, so that the cardiac orifice of the œsophagus is not always closed equally and perfectly. Though experiments have shown that when the œsophagus is in perfect order no food can pass into it; and, in the act of vomiting, the experiments of Legallois, Beclard, and Majendie have, during the act of digestion, demonstrated the antiperistaltic motion of the œsophagus the reverse of that which it excites in deglutition. In the numerous experiments of Dr. Reid, it frequently happened that muscular contractions of the œsophagus, induced by irritating the par vagum in the neck, extended over the cardiac extremity of the stomach, but they were slower, more prolonged, and vermicular, than in the œsophagus. In the pheasant and pigeon there is, however, a change that takes place in the internal surface of the crop, at the time the young are hatched, and at this time the pigeon regurgitates the milky secretion of the crop to nourish her young with. In the rumantia, while the first two stomachs have the power of returning the food to the mouth for rumination, the third stomach, by which the act of vomiting is performed, is with great difficulty excited to exert its movement. Regurgitation is also a natural act in some instances in man, as is frequently noticed in the nursing infant, when its stomach is

repleted; a portion of the milk is regurgitated, and the process of digestion then goes on to completion; and in the adult we notice in some cases, where large quantities of gases are generated, and which, on being thrown up, leave the individual easy, that digestion is then accomplished afterwards with more comfort. We recognize the salutary influence, also, in the rejection of morbid fluids which mark certain forms of indigestion, as in pyrosis. In pertussis, which is considered by many pathologists as an affection of the par vagum, engaging those portions that go to the chest and œsophagus. In this disease it is noticed that, after the cough, a part and sometimes the whole contents of the stomach are regurgitated by the child, and as soon as rejected, the child will again resume its eating, immediately after the paroxysm; and it is rejected without much or any effort, nausea, or convulsive action of the stomach.

From the intractable nature of the cases we are discoursing upon, continuing, as they may, for several years, provided no organic lesion should spring up—and we can record one instance of two, and another of three years duration, which recovered without any lesion; in cases of this nature, the mind of the medical man will naturally grow incredulous respecting the true character of the disease, and will again and again feel strongly inclined to suppose or believe that organic changes have occurred, or must exist, where such a lengthened continuance of a disease has shown itself, and that the various forms of degeneration of that organ, either of the fibrous and cancerous order, and perforating ulcer, or ulceration, may be present, and even sarcinæ. If this view is not entertained, and various forms of treatment been adopted and proved of little or no avail, hysteria generally comes in for a solution of the difficulty, as throwing more light on the subject, for want of more satisfactory explanation, presuming there is "something behind" not yet clearly recognized, being either idiopathic or sympathetic of some uterine or ovarian trouble, or possibly from some internal organ —such as the liver, kidney, or tuberculous affection of the brain, or a general tuberculosis. Emesis, in diseases of this nature, occurs not only during the time of digestion, but between the time of eating, and possibly some slight hemorrhage may be manifest, as adding to the solution of the disease; this, however, is not the case in instances of regurgitation; for in nearly every instance, in which regurgitation occurs, the food is immediately, or very soon after it is partaken of, rejected, and whilst it is undergoing the process of digestion. Believing that this one symptom of diagnosis will be sufficient, together with the history of the case, while the food is rejected, and the slight emaciation

that occurs, to draw attention to that peculiar morbid condition of the stomach, I will not discuss the further diagnostic symptoms incident to the other morbid affections of that organ.

Entertaining the opinion, from the first time the patient came under my charge, that the symptoms were those of regurgitation and not of vomiting; that the affection was seated in the par vagum, and more especially its cardiac extremity, and the stomach was only partially implicated, and that through the ganglionic or solar plexus of nerves, and that it was believed to be free from any disorganization of its tissues. The indications, therefore, of treatment would be directed to overcome the irritation of that portion of the nervous system to obtain a favorable result. At the instance of Sir Joseph F. Olliffe, during the month of May last, this opinion was communicated to himself and Professor Trousseau, under whose care the patient was during her sojourn in Paris for three months. Having taken this view of the nature of the affection which my patient was affected with, let us see what reason there was why such an opinion should be entertained, and for the kind of treatment which was adopted, and which has been the means or instrument of the restoration of the invalid to her general state of health.

We are aware that the par vagi arises from the corpora olivare and restiform, that it sends many fibres over a large space and to many organs, such as the external ear, pharynx, larynx, œsophagus, trachea, heart, and lungs, and some to the stomach, and also to other viscera of the abdomen. In their course they communicate with the sympathetic, and to the cerebro-spinal nerves to a partial extent. It is considered by Stilling, Vankempen, Muller, Reid, and others, as a motor and sensiferous nerve; and that it has been proved by Dr. Reid, and other physiologists previous to him, that irritation of the trunk of the vagus excited motions in the œsophagus which extended over the cardiac portion of the stomach; and as Muller has remarked, that the motions of the œsophagus are dependent on the motor fibres of the vagus, and are probably excited by impressions made on the sensitive fibres of that nerve. The vagi has no motor influence on the nerve of the stomach, for neither by galvanic influence nor by mechanical irritation applied to the neck, can motions of the stomach be excited; but lesion of the vagi is generally followed by rejection of food, loathing of it, and arrestment of the digestive process, as has been incontrovertibly shown by numerous experimenters.

Digestion may, however, occur, though the nerve has been divided in the neck, even when the extremities are an inch apart; and that when divided, and in contact, the digestion was

more perfect; and that if irritated by pinching, etc. digestion was more easily accomplished. We are, therefore, justified in concluding that a deleterious influence is propagated downwards to the stomach by lesion of the vagi, either by pressure on it, or by disease.

In the tenth and eleventh experiments of Dr. Reid, on the vagi of dogs, the vomiting was very frequent, and the animal would vomit up its food, afterwards partake of it again, and then reject it again, and this continued for several minutes. The death of the animal was attributed to the frequency of vomiting; and, on examination after death, there was evidence that digestion was proceeding at the time of dissolution. As the experiments are of so much interest, and bear so clearly and pointedly on the subject, as illustrating the function of that nerve while under lesion, I have thought it might not be amiss to quote the eleventh experiment, as exhibiting the close analogy to cases of regurgitation in man.

The subject of the experiment was an old and large pointer. The vagi was cut on the 27th June, at half-past eight A.M. On the 28th, he was dull and languid; had no apparent uneasiness; refused to eat, and had a little vomiting. On the 29th, took a little food, which was soon vomited. On the 30th, was dull, and vomited a small quantity of food taken. 2d July, took a quantity of milk, which was vomited some time afterwards. 3d, appetite deficient, and the food taken was vomited after a shorter or longer time. On the 5th, still vomited a great part of the food taken, and was evidently becoming more feeble. At 3 P.M. was poisoned with prussic acid, and died soon afterwards. On post mortem examination, soon after death, the stomach was found healthy and slightly red on the inner surfaces, as is usual when digestion is proceeding. This was also the case in two other experiments of a like nature. After lesion of the vagi, vomiting, or rather regurgitation, is generally occasioned by the presence of the food in the stomach, and not from any irritation of the nerve itself, even if it is divided; and it has been remarked that dogs made no effort to vomit when the stomach was empty, but were seized with vomiting immediately or soon after food was taken into the stomach, where lesion of the vagi existed. It is very apparent, therefore, from the experiments so carefully carried on by the eminent physiologists referred to, that there is a marked and distinct difference between the physiological action of the nerves going to the stomach and the œsophagus; and that when vomiting is produced by the lesion of any internal organ, it is by a reflex action, transmitted from the irritation of the brain to the

medulla oblongta first, and then reflected to the stomach; but that cases of vomiting, or rather of regurgitation, may exist idiopathically when the lesion of the par vagi is solely affected, as we have shown; and further, of the central organs, the spinal cord rarely bears an etiological relation to vomiting, for injuries and diseases of that portion of the nervous system are so uniformly followed by paralysis of the expiratory muscles, that that alone accounts, according to Romberg, for the rare occurrence of vomiting as a concomitant symptom. In the observations by Olliver, there are but few instances, and they apply rather to the first stage of myelitis, than to other spinal affections; but, on the other hand, the brain bears a close relation to vomiting, for we have often seen how a mental impression quickly suffices to produce it. Instances of voluntary vomiting are very rare, though it is recorded that Bichat possessed this faculty.

When I reflected on the views that have been promulgated of the natural action of the œsophagus, the result of the experiments on the par vagum in animals, where there was a lesion of that nerve; seeing the persistency of the regurgitation of my patient, with the slight emaciation when I first saw her, and noticing also the ease with which she rejected her food, of what ever form it might consist, of fluid or solid, and occurring at the time the food was taken, and seldom or ever without something was partaken of, though of the slightest or smallest quantity, it was evident that the case presented the appearance so nearly allied to the par vagum, where lesion had occurred from experiments on that nerve in animals, and that that nerve had therefore undergone a lesion in some form or other. Being unsuccessful in overcoming or mitigating the affection whilst she was under my charge, by treatment, previous to her sailing for Europe, and then returning without having received any benefit from the treatment of several of the most prominent professional gentlemen in Paris, with the views I entertained, I deemed it advisable that chloroform should be tried after the patient had partaken of food, and the reasons for this method of treatment I will now relate:—

The par vagum was considered as the *point de depart* of the malady, with the solar plexus of nerves going to the stomach incidentally engaged, and that in consequence of this the *antiperistaltic motion* of the *œsophagus* had *occurred;* that the *stomach* had *ceased* to *perform* its *natural* functions perfectly, and that it was possible, if the *antiperistaltic* action of the *œsophagus* could be *arrested* or *quieted* after *food* had been taken, thus permitting the stomach to assume its natural and

perfect functions, which it had not done for nearly a year, and the digestion process sustained for one or one and a half hours without regurgitation, more nourishment would be taken into the system than she had received during the time she was usually engaged in disgorging her food as she was accustomed to do: for this must have been the only way in which she had existed, or else she would have died of inanition. The first trial we have noticed, July 17, was in some measure successful and warranted a repetition of the remedy; and, on the 19th July, after a full meal for her dinner, proved to be so successful that there was no occasion to resort to it again, nor to any other remedial agent, except a few doses of the mixture as stated above.

I am loath to believe, with the views I have expressed, why there was functional lesion of the eighth pair of nerves, and of that portion going to the cardiac extremity of the stomach, corroborated by the experiments of so many eminent physiologists, they could be viewed as speculative in their character, and the treatment considered as of the same order, for this view must, I think, be negatived by the success which has attended the administration of the remedy, while the stomach was repleted, proving, I think, the correctness of the reasoning and as excluding the malady from that protean form of disease, hysteria, under which so many affections are classed, for want of a better and more scientific explanation.

It might be alleged, that as the mind was materially affected at its commencement, and as one of the exciting causes, the mental impression may have sustained the affection, but this can have no validity, as the circumstances that existed at the commencement and previous to its occurrence, still continue as at that time.

It might be supposed that the sea voyage on her return home had conduced to the favorable result of the case, but this could not reasonably be alleged as aiding in the least to the benefit of the patient, for the affection continued in the same manner as previous to her leaving America; nor did the quiet and rest which she enjoyed at home aid her, as no improvement had manifested itself till the inhalation of the chloroform had been resorted to, two weeks afterwards.

I am not unmindful, however, that changes may occur in the cardiac extremity of the stomach, when the disease has existed for a considerable length of time, and that the œsophagus may, in its tissue, take on the degenerative form. In three ruminating individuals, all of the male sex, Arnold found the œsophagus in the stomach considerably dilated, limited above by a

constriction, so as to form a genuine cardiac vestibule—the muscular layers of the stomach and œsophagus were strongly developed, and in two of the cases they were larger and wider than usual. In the first instance the internal branch of the accessory of Willis was much larger than usual, so as almost to equal the *external branch*, a relation similar to what is found in ruminating animals. Joseph Frank relates a case of a Professor, at Wilna, who died, after suffering some few years from vomiting, and, on examination, the vagi were found surrounded on each side by a steatomatous tumor. In a female, three months advanced in utero-gestation, who was subjected to much vomiting, thirty or forty times a-day, reported by Lobstein, the semi-lunar ganglion with the par vagum was in a high state of irritation. The stomach was found perfectly healthy on post mortem examination. There is, therefore, no question that the sources of reflex irritation, proceeding from the sensory fibres of the vagi, occupy a prominent rank.

In conclusion, I need not say I have experienced no ordinary pleasure in presenting this interesting case to the attention of the Association, with the few remarks on regurgitation, and the reasons for the pathology of the malady, and why this method of treatment was adopted. I think it exhibits the application of a remedial agent through physiological deduction, and not through a mere empirical manner, or as a mere hysterical affection, and serves to prove the great benefit we have derived from the patient and scientific results of the experiments of so many eminent physiologists, and as the presentation of a new method of treatment in affections of this nature, and I should apprehend of others of a like character, as for instance in those of utero-gestation which sometimes assume the same phase.—*New York Jour. of Med.*

BOOK NOTICES.

The Obstetric Memoirs and Contributions of JAMES Y. SIMPSON, M.D. F.R.S.E. Prof. of Midwifery in the University of Edinburgh, &c. Edited by W. O. PRIESTLY, M.D. Edinburgh, and HORATIO R. STORER, M.D. of Boston, U.S. one of the Physicians to the Lying-in-Hospital, &c. Vol. II. Philadelphia, J. B. Lippincott & Co. 1856.

This is a volume of seven hundred and thirty-three pages,

printed on fair type and paper, but very coarsely bound in cloth, without being sufficiently trimmed to cut the leaves apart. It contains Chapters or Essays, by Prof. Simpson, on the following highly-interesting subjects, viz.:—

First—Pathology of the Puerperal State.

Second—Physiology and Pathology of the Products of Conception.

Third—Pathology of Infancy and Childhood.

Fourth—Anæsthesia in Surgery.

Fifth—Anæsthesia in Midwifery.

Sixth—On the Nature and Powers of Various Anæsthetic Agents.

Seventh—On Local Anæsthesia.

The matter contained in the last four sections had been previously extensively re-published in this country. The whole volume, however, will be found extremely valuable to the practitioner, being replete with interesting facts drawn from observation and experience, and should consequently have a place in every medical library.

It is for sale at D. B. Cooke & Co. 112 Lake Street, Chicago.

Materia Medica, or Pharmacology and Therapeutics. By Wm. Tully, M.D. Vol. I. No. 20, June, 1856. Springfield, Mass. published by Jefferson Church, M.D. 1856.

This interesting and original publication continues to be issued in numbers, and to maintain fully the character for merit which was exhibited in the first numbers.

Price, twenty-five cents per number.

American Journal of Pharmacy, published by authority of the Philadelphia College of Pharmacy. Edited by Wm. Proctor, Jr. Professor of Pharmacy, &c.

The November number of this well-established bi-monthly journal has been received, and its contents are as varied and interesting as usual. It is well worthy of the patronage of both physicians and druggists.

Price, three dollars per annum.

On the Diseases of Infants and Children. By FLEETWOOD CHURCHILL, M.D. M.R.I.A. Hon. Fellow of the College of Physicians, Ireland. Second American Edition, Enlarged and Revised by the Author. Edited, with Additions, by WM. V. KEATING, M.D. A.M. Physician to St. Joseph's Hospital, Lecturer on Obstetrics, &c. Philadelphia, Blanchard & Lea, 1856.

The former edition of Dr. Churchill's work on Diseases of Children, has been before the profession several years, and its merits are consequently well known. The present edition has been carefully revised by the author, and copious references made to American writers on the several topics discussed, the object being to adapt it especially to the American market.

The present volume contains seven hundred and thirty-five pages, and is divided into two parts.

Part I. is "On the Management of Infancy and Childhood," and embraces Chapters on the following subjects, viz.:—

1. Preliminary Observations on the Management of Infancy and Childhood. 2. Management of the Infant at Birth. 3. The Food of Infancy and Childhood. 4. Cleanliness. 5. Air and Exercise.

Part II. is on "The Diseases of Infancy and Childhood," and contains Chapters on the following topics:—

1. Intra-Uterine or Congenital Diseases. 2. Cephalœmatoma—Fractures of the Cranium. 3. Irritation of the Nervous System—Trismus Nascentium. 4. Chorea—St. Vitus' Dance. 5. Convulsions. 6. Acute Meningitis—Acute Hydrocephalus. 7. Chronic Hydrocephalus. 8. Inflammation of the Brain. 9. Tumors of the Brain. 10. Conjestion and Apoplexy of the Brain. 11. Paralysis. 12. Intra-Uterine Diseases of the Respiratory Organs. 13. Spasm of the Glottis—Thymic Asthma. 14. Hooping Cough. 15. Croup. 16. Atelectasis Pulmonum. 17. Bronchitis. 18. Pneumonia. 19. Pleurisy. 20. Phthisis. 21. Malformation of the Heart. 22. Pericarditis. 23. Endocarditis. 24. Congenital Malformation of the Digestive Organs. 25. Dentition. 26. Inflammation of the Mouth. 27. Apthœ and Thrush. 28. Miguet, or Pseudo-Membranous Inflammation. 29. Ulcerated Sore Mouth. 30.

Gangrene of the Mouth, or Cancerum Oris. 31. Tonsilitis. 32. Parotitis. 33. Pseudo-Membranous Pharyngitis. 34. Putrid Sore Throat. 35. Post Pharyngeral Abscess. 36. Diseases of the Stomach. 37. Indigestion or Weaning Brash. 38. Gastritis. 39. Diarrhœa. 40. Dysentery. 41. Intestinal Worms. 42. Jaundice and Enlargement of the Liver and Spleen. 43. Tabes Mesenterica. 44. Peritonitis. 45. Diseases of the Skin—under this head, the author treats of the usual list of Chronic Cutaneous Affections and the Eruptive Fevers. 46. Infantile Remittent Fever. 47. Typhoid Fever. 48. Infantile Syphilis.

From the enumeration of the contents of the work, our readers will see that it is a comprehensive treatise, embracing almost everything relating to the diseases of infancy and early childhood, whether congenital or non-congenital. The method pursued by Dr. Churchill, in writing his work, is strictly that of a *compiler*, rather than of an original thinker and experienced practitioner. And while we cannot recommend the work to the exclusion of the valuable treatises by Stewart, Condie, and Meigs of our own country, we can cordially assure our readers that they will find it a very valuable addition to their libraries.

For sale by D. B. Cooke & Co. Lake Street, Chicago.

A Treatise on Therapeutics and Pharmacology, or Materia Medica. By GEORGE B. WOOD, M.D. Late President of the American Medical Association; President of the College of Physicians of Philadelphia; Professor of the Theory and Practice of Medicine in the University of Pennsylvania; Senior Physician to the Pennsylvania Hospital, &c. In Two Volumes. Philadelphia, J. B. Lippincott & Co. London, Trubner & Co. 1856.

The above is the title to a new and very valuable work on an important branch of medical science. It consists of two volumes, containing over eight hundred pages each, printed on good type and paper, and substantially bound in calf. The author was for many years an eminent teacher of Materia Medica, and, in the present volumes, has given to the profession one of the most complete and valuable text-books to which the student can have access. Like the work, of the same author,

on the "Practice of Medicine," this will speedily find its way into the hands of a great majority of the students and practitioners of this country.

For sale by D. B. Cooke & Co. Lake Street, Chicago.

MEDICAL INTELLIGENCE.

Proceedings of the Annual Meeting of the Æsculapian Society, held at Grand View, Ill. Oct. 29th and 30th, 1856.

The Æsculapian Society met in annual session at Grand View, Oct. 29th. In the absence of the President (Dr. York,) the Vice-President, Dr. Stormont, took the Chair, and called the Society to order at 11 o'clock.

The minutes of the last meeting were read and approved.

On motion, the regular order of business was suspended. Dr. Chambers then announced the death of Dr. E. C. Banks, one of the founders of the Society; and, after paying a feeling tribute to the professional and personal worth of the deceased, offered the following resolutions, which were unanimously adopted, viz.:—

Resolved, That in the death of Dr. Elijah Columbus Banks, this Society acknowledges a Providential visitation, which has removed from their fellowship an esteemed associate and co-worker in all that tends to elevate the profession to which they belong.

Resolved, That, as members of the medical profession, we express our sense of the loss we have sustained in the death of one of its members, who, by his natural gifts, his acquirements, his zeal, his industry and his devotion to his calling, has raised the standard of our noble profession, and commanded the confidence of his professional brethren throughout the surrounding country.

Resolved, That the heartfelt sympathies of this Society be respectfully tendered to the family of the deceased, and that while we assure them their sorrow is shared by all around them,

we trust they may find consolation in the many good works which he did while with us; in the gratitude with which his name will be cherished, and in the trust that a useful earthly existence has prepared him for a life of clearer knowledge and purer happiness.

Resolved, That a copy of these resolutions be sent to Mrs. Banks, by the Secretary.

On motion of Dr. Davis, the Society then adjourned to meet at one o'clock.

AFTERNOON SESSION.

The President, Dr. York, called the Society to order according to adjournment.

Drs. Davis and McCord were appointed to fill vacancies in the Board of Censors.

Dr. Davis proposed Dr. Frizell, of Bloomfield, for membership. Referred to the Censors.

Reports from standing committees called for.

Dr. Chambers, from the Committee on Surgery, read a report. Discussed by Drs. Davis, Chambers, York, and others.

Dr. Payne, Chairman of the Board of Censors, reported favorably on the application of Dr. Frizell. The Doctor then read a paper on Inflammation of the Uterus, which was discussed by Drs. F. R. Payne, Davis, York, H. R. Payne, Chambers, McCord, Frizell, and Stormont.

Dr. Frizell was then balloted for and unanimously elected.

Dr. Davis read a paper on Pneumonia. Discussed by Drs. Chambers, Davis, Mc Cord, and York.

Dr. McCord asked to be excused for not reporting on Typhoid Fever. Excused. Some pertinent remarks on the diagnosis of this disease were made by Drs. York, Chambers, and Payne.

The Society then proceeded to the election of officers for the ensuing year, which resulted as follows, viz.:—

Dr. F. R. PAYNE, *President.*

Dr. W. M. CHAMBERS, *Vice-President.*

Dr. D. W. STORMONT, *Secretary.*

Dr. D. O. MCCORD, *Treasurer.*

Drs. S. York, T. M. Smith, J. M. Stuh, S. W. Thompson, and H. R. Payne, *Censors.*

On motion, the Society then went into an election for Delegates to the American Medical Association and to the State Society. Drs. S. York and D. W. Stormont were elected Delegates to the National Association, with power to appoint alternates; and Drs. Duncan, Stormont, Chambers, and Smith were elected Delegates to the State Society, with power to appoint alternates.

On motion of Dr. Stormont, the Society now adjourned to meet at the Presbyterian Church, at 6½ o'clock, to hear the Annual Address by Dr. H. R. Payne.

EVENING SESSION.

The Society met as per adjournment. Dr. H. R. Payne, being introduced, delivered an excellent address to a large and attentive audience on the True Position of the Medical Profession. Dr. York, the retiring President, then delivered a spirited Valedictory on Quackery in the Profession. The audience was then dismissed, and the Society proceeded to the regular business.

On motion of Dr. York, the Treasurer was instructed to make a full report of the condition of the finances of the Society, at the next meeting.

Dr. Stormont moved that the thanks of the Society be tendered to Drs. Payne and York for their very excellent addresses, and copies requested for publication. Carried.

The resolution offered by Dr. Mitchell, at the last meeting, coming up, on motion of Dr. York it was laid on the table.

Charleston was selected as the place for holding the next meeting.

Dr. H. W. Davis was appointed to deliver the next public address.

The following gentlemen were appointed Chairmen of the Standing Committees (of their own selection,) to report on the subjects annexed to their names, at the next *annual* meeting, viz.:—

Dr. S. Thompson, Surgery.

Dr. F. R. Payne, Practical Medicine.
" J. Tenbrook, Midwifery.
" S. W. Thompson, Epidemics.
" C. A. Hunt, Indigenous Botany.

Drs. McCord, Smith, and Frizell were appointed a Business Committee, to select subjects for essays and reports at the next semi-annual meeting, said Committee to report to-morrow morning.

On motion the Society adjourned to meet to-morrow morning, 8 o'clock.

OCT. 30, MORNING SESSION.

The Society met as per adjournment, Dr. Payne in the chair.

The Secretary read a report on Epidemics, by Dr. Chambers.

Dr. H. R. Payne read a paper on Malignant Inflammation of the Fauces, reporting several cases.

The Business Committee announced the following subjects, and the President appointed the gentlemen whose names are opposite the subjects, to report thereon at the next meeting, viz.:—

Epidemic Opthalmia, Dr. S. York.
Milk Sickness, Dr. J. M. Logan.
Scrofula, Dr. T. D. Washburn.
Pneumonia, Dr. H. W. Davis.
Rheumatism, Dr. T. M. Smith.
Prolapsus Uteri, Dr. Balch.
Veratrum Viride, Dr. C. Gorham.
Epidemic Dysentery, Dr. D. Bowers.
Acute Bronchitis, Dr. J. D. Mitchell.
Use and Abuse of Alcohol, Physiologically Considered, Dr. J. M. Hinkle.
Stomatitis Materna, Dr. W. M. Chambers.
Delirium Tremens, Dr. Holms.
Relations between Cardiac and Pulmonary Diseases, Dr. J. H. Frizell.
Sequalæ of Intermittent Fever, Dr. D. O. McCord.
Influence of Malaria in Modifying Diseases, Dr. H. R. Payne.
Membranous Croup, Dr. C. Johnson.

Typhoid Fever, its Diagnosis and Treatment, Dr. C. M. Hamilton.

Cause of Intermittent Fever, Dr. V. R. Bridges.

Induration, Inflammation, and Ulceration of the Os Uteri, and Use of Speculum, Dr. Davis.

Best Means of Procuring Water for Drinking Purposes, Dr. O. Q. Herrick.

On motion of Dr. Chambers, Drs. S. Thompson, Bridges, and Bowers were continued a Committee on Substitutes for Quinine, to report at the next meeting.

Dr. A. A. Lodge, of Midway, being proposed and recommended by the Censors, was unanimously elected a member of the Society.

Dr. Chambers moved that a committee be appointed to memorialize the Legislature to pass a law regulating the sale of Patent Medicines. Carried. Drs. Chambers, Davis, and York were appointed said committee.

The Society then adjourned to meet at one o'clock.

AFTERNOON SESSION.

The Society met, the President in the Chair.

Dr. Payne moved that the Treasurer be instructed to discharge all the just debts of the Society. Carried.

Dr. Chambers moved the Treasurer call on each member for two dollars assessment. Carried.

Here quite a lengthy discussion arose on the propriety of publishing, semi-amnually, all the transactions of the Society; but the subject was laid over without any definite action being taken on it.

Dr. Chambers offered the following resolution, which was adopted, viz.:—

Resolved, That the Secretary be instructed to correspond with the Secretary of the Smithsonian Institute, in reference to procuring four full sets of Meteorological Instruments for the use of the Society.

Drs. Chambers, Lodge, and Herrick, were appointed a Committee of Arrangements.

It was ordered that a copy of the proceedings of this meeting

be furnished the *North-Western Medical and Surgical Journal*, and the newspapers of the district, for publication.

The Society then adjourned to meet in Charleston, on the last Wednesday in May.

F. R. PAYNE, *President.*

D. W. STORMONT, *Secretary.*

EDITORIAL.

Rush Medical College.

The regular term of lectures in this Institution commenced on the first Monday in last month. The general introductory lecture was delivered by Prof. H. A. Johnson, and was listened to with much pleasure by the audience. The lecture was beautifully written, and in sentiment strictly appropriate to the occasion. The number in attendance during the present College term does not vary materially from that of former years; and the advantages they possess cannot be easily excelled. Aside from the regular courses of instruction in the College, Members of the Class have access to the Marine and Mercy Hospitals, both of which are well filled with patients. The Professor of Surgery gives clinical instruction four mornings each week in the Marine Hospital, and the Professor of Practical Medicine six in the Mercy Hospital. By this arrangement every student, taking the Hospital tickets, can receive instruction directly at the bed-side, at least four mornings each week, and yet have the number in attendance at any one time so limited as to permit the most full and careful examination of each individual case, including the frequent practice by the student of auscultation and percussion.

Number of Medical Journals.

A recent number of the *Memphis Medical Recorder*, gives the following statistics in relation to the number of Medical Journals published in the different countries of Europe and America, viz.:—

"Germans 58, Dutch 8, Swedish 18, English 30, French 34, Belgian 13, Italian 12, Spanish 9, Canadian 3, United States 40—total, 225. The Journals of Pharmacy are included in this list, of which there is a goodly number on both sides of the Atlantic; but it does not embrace the numerous journals, a large majority of which are published in this country, devoted to some one or another of the exclusive systems of practice in vogue."

To Subscribers.

The present number of the *Journal* closes the fifth volume of the new series, and there are still many subscribers who have not paid their subscriptions. Indeed, there is over $1,500 due us from subscribers to Volumes IV. and V. Will not each individual concerned give immediate attention to this matter. We would like to commence the New Year with all previous accounts settled, and the books fairly balanced.

Medical Ethics.

In a former number of the *Journal* we made some comments on a hand-bill, purporting to come from Drs. Kreider & Kimber, of Prairie City. We have since been satisfactorily assured, that though the hand-bill was printed, it was never actually circulated or distributed among the people, simply because its authors, on reading it over, were satisfied that it was not in accordance with the Code of Ethics, or with that sense of propriety which should govern every intelligent physician.

We are glad to make this correction, because our previous acquaintance with Dr. Kreider had led us to regard him as a high-minded and honorable man in all the relations of life, and we would not, knowingly, do him or any other the slightest injustice.